Consolidated Operations – Putting it All Together

Heath Newburn – Program Director Netcool
hnewburn@us.ibm.com

PulseANZ2010

Meet the people who can help
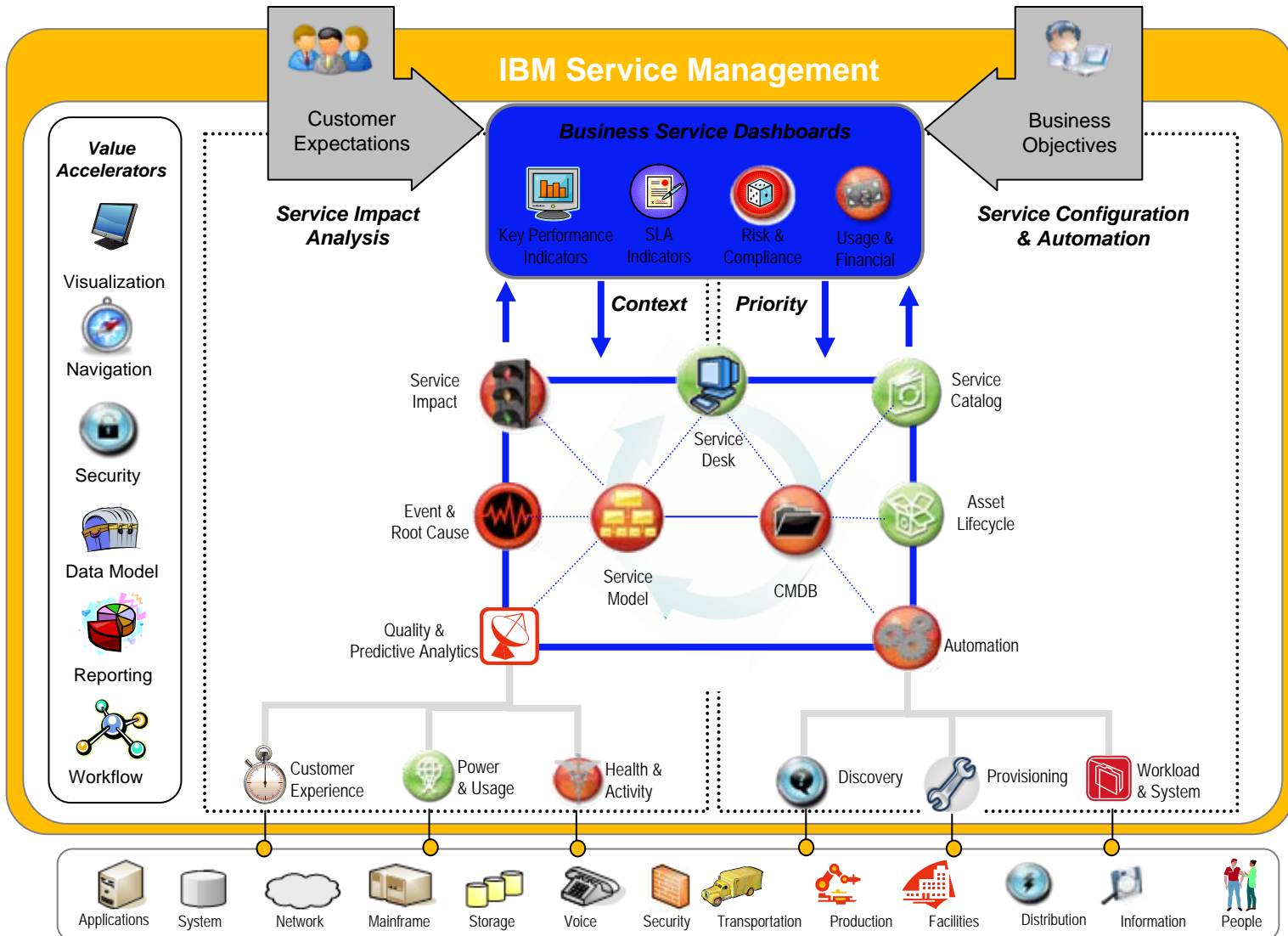advance your infrastructure

Disclaimer

The information on the new product is intended to outline our general product direction and it should not be relied on in making a purchasing or sales decision.
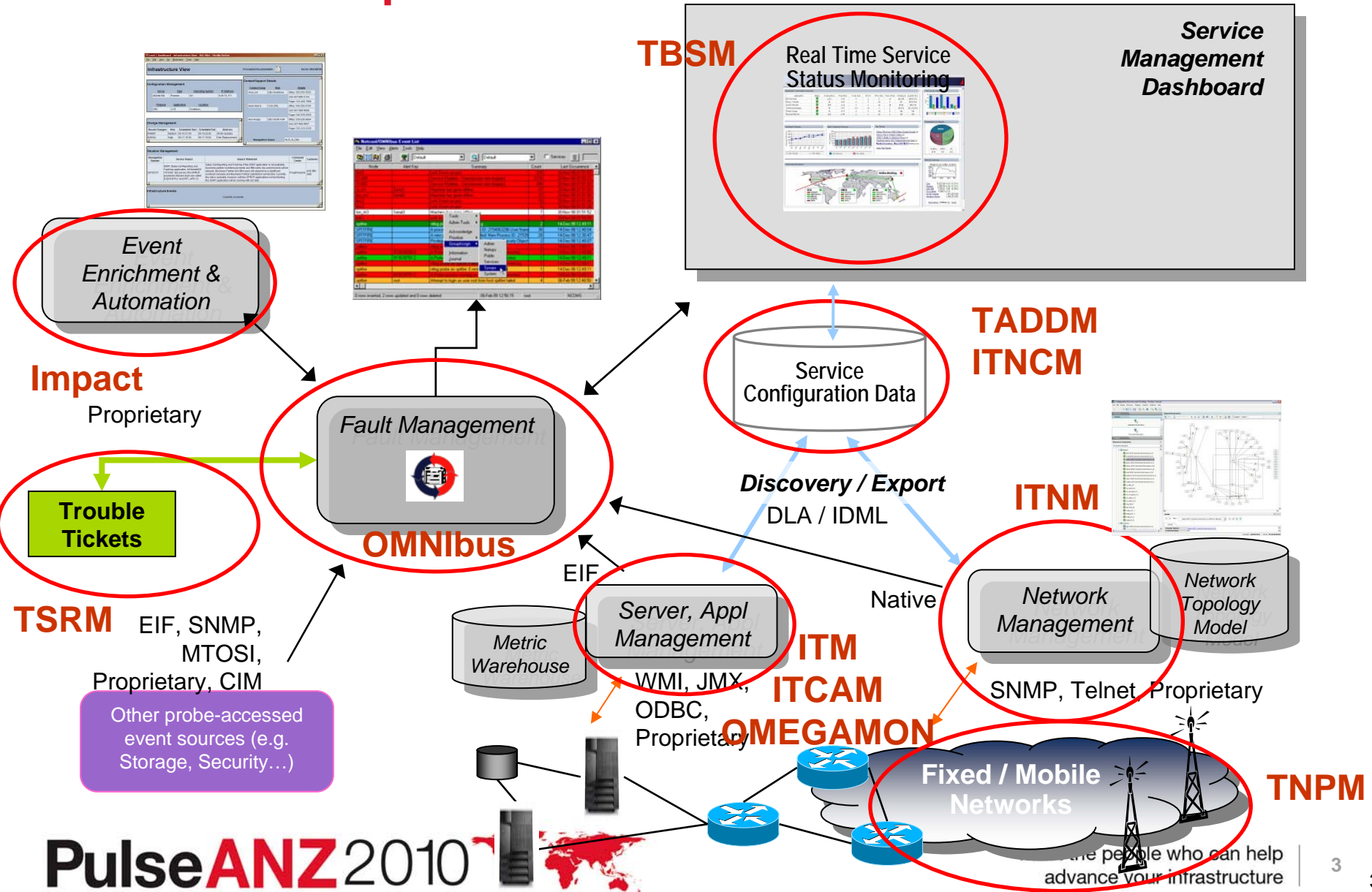
The information on the new product is for informational purposes only and may not be incorporated into any contract.

The information on the new product is not a commitment, promise, or legal obligation to deliver any material, code or functionality. The development, release, and timing of any features or functionality described for our products remains at our sole discretion.

An integrated approach to managing 'What Matters Most'

Consolidated Operations Reference Architecture

TBSM — Real Time Service Status Monitoring — *Service Management Dashboard*

Impact — Proprietary

Event Enrichment & Automation

TSRM — **Trouble Tickets**

EIF, SNMP, MTOSI, Proprietary, CIM

Other probe-accessed event sources (e.g. Storage, Security…)

Fault Management

OMNIbus

EIF

Metric Warehouse

Server, Appl Management

WMI, JMX, ODBC, Proprietary

ITM ITCAM OMEGAMON

TADDM ITNCM — Service Configuration Data

Discovery / Export
DLA / IDML

ITNM

Network Management — *Network Topology Model*

Native

SNMP, Telnet, Proprietary

Fixed / Mobile Networks

TNPM

the people who can help advance your infrastructure

Tivoli Netcool Omnibus
Market Leading Event Consolidation & Automation

Maximize Service Availability

- Leverage hundreds of out-of-the-box integrations, with included domain intelligent event reduction rules, to monitor end-to-end infrastructure status and health.

Reduce Operational Costs.

- Consolidate NOCs, tools and management sources into a single pane-of-glass and integrated management infrastructure.

Improve Staff Productivity.

- Utilize normalization, de-duplication, aggregation, correlation capabilities, as well as time, device, and service based event reductions.

Minimize human intervention.

- Exchange information between peer systems and automate maintenance actions and procedures.

Increase Confidence.

- Leverage proven availability and reliability, with trusted system redundancy, failover and security.
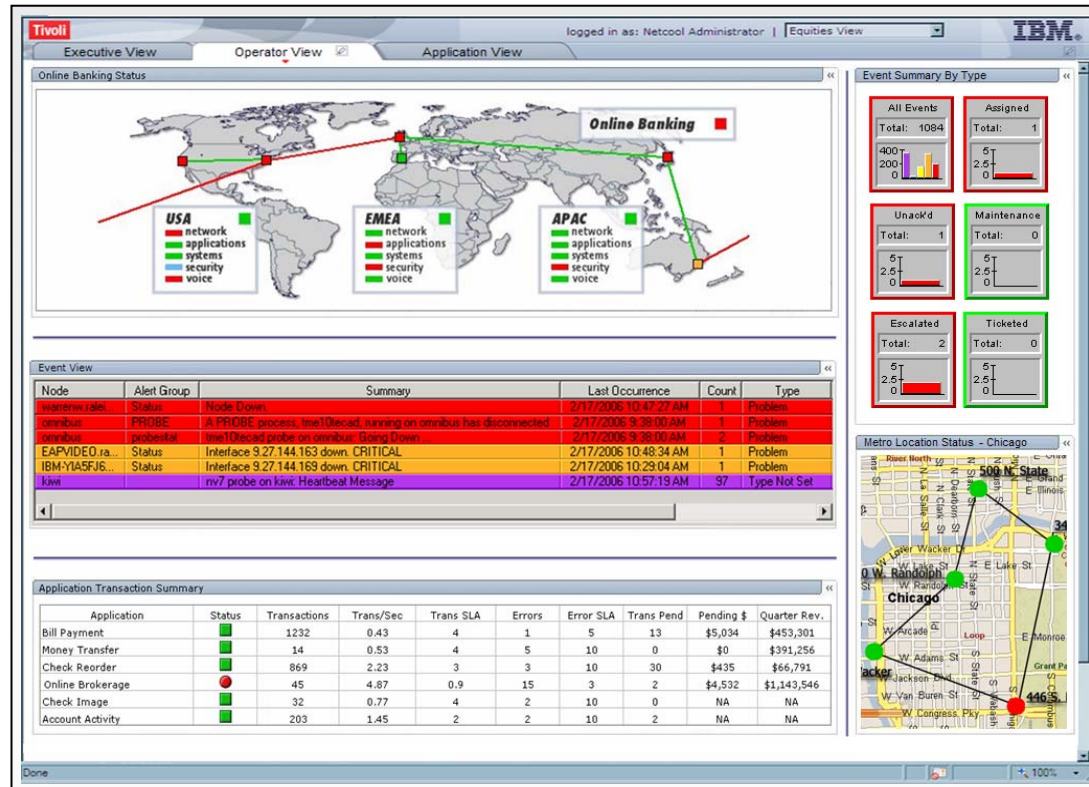
Netcool/Omnibus Highlights:

- TIP-based Web UI provides Web 2.0 interface
- Advanced scalability, FIPs security compliance, TEC equivalent features, Event Warehousing in TDW
- zSeries hosting and native management (z/Linux & Pump)

4

Coupled with…..leading Network Discovery, Topology and RCA
IBM Tivoli Network Manager

## Scalable Flexible Network Discovery

- Supporting layer 2 and 3 networks including IP, IPv6, Ethernet, MPLS, Ethernet Services
- Dynamic, always active and event driven
- Centralized Open Network Data Repository

Real time web-based Network Visualization

- Task-oriented UI helps operations staff locate, troubleshoot and resolve network problems
- Integrated fault, topology and performance views
- Launch 3rd party OAM tools for further diagnostics

Accurate Monitoring and Root-cause Analysis

- Automatic targeting & configuration of network monitoring
- Correlation of events based upon the network connectivity
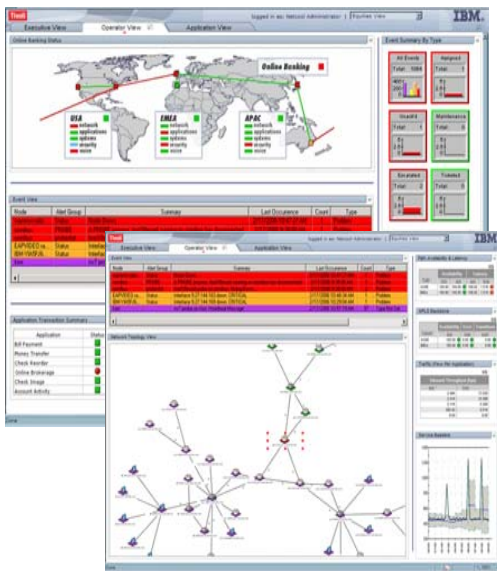- Identification and isolation of root cause & symptom events

Session 7 Track 1
Creating a Reusable Service
Assurance Model for a Svc Provider
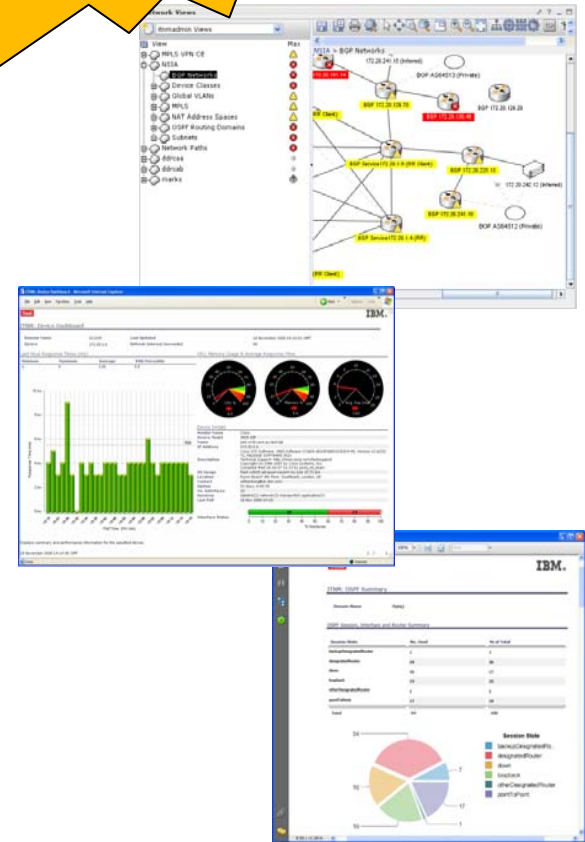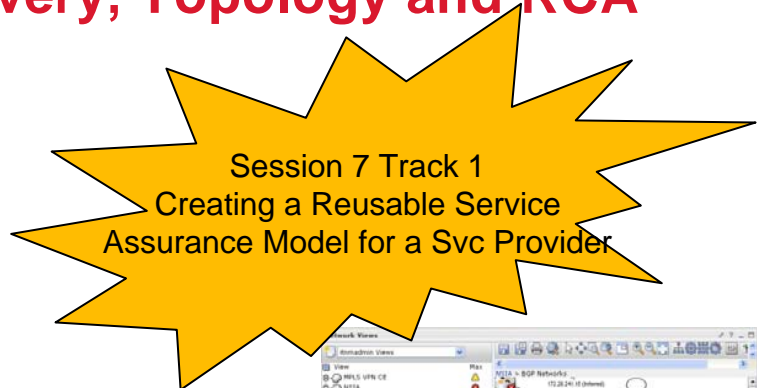
Tivoli Netcool/OMNIbus v7.3
Tivoli OMNIbus and Network Manager v8.2

- Netcool/OMNIbus v7.3 includes as the strategic Event Management Desktop the web user interface previously known as Netcool/Webtop.

- V7.3 includes Tivoli Netcool/Impact for limited use with Tivoli product integrations

- Tivoli Data Warehouse and TCR are included with ITM 6.2, which is bundled for limited use with OMNIbus (a DB2 license is included for use as the TDW)

http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?subtype=ca&infotype=an&appname=iSource&supplier=897&letternum=ENUS209-363&open&cm_mmc=5734-_-n-_-vrm_newsletter-_-10207_136341&cmibm_em=dm:0:13153000

Meet the people who can help | advance your infrastructure

Tivoli Netcool/Impact

Context-Driven Correlation, Intelligence and Automations.

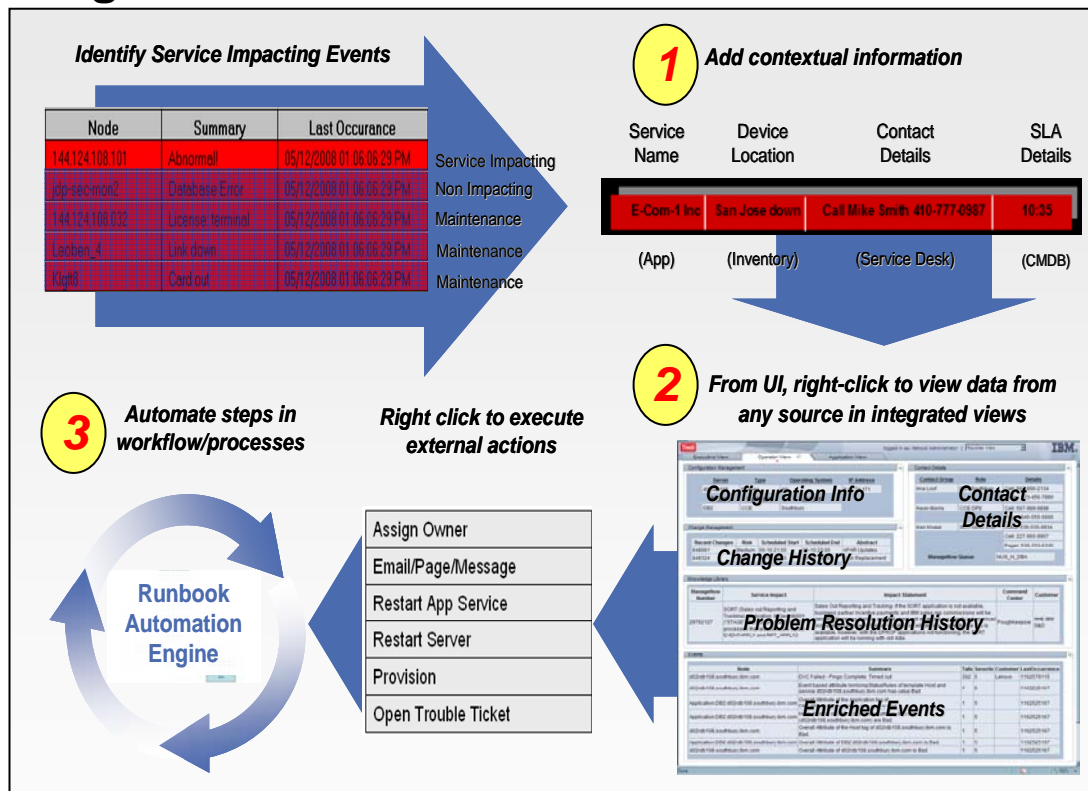**1** **Speeds mean-time-to-resolution**

- Context-driven Correlation: across applications and equipment

2 **Improves decision-making, staff effectiveness**

- Context-driven Intelligence - disparate information in single, interactive view

3 **Maximizes operational staff productivity**

- Context-driven Automation: trigger or automate workflow actions

Identify Service Impacting Events

Node	Summary	Last Occurance	
144.124.108.101	Abnormal	05/12/2008 01:06:06:29 PM	Service Impacting
jdp-sec-mon2	Database Error	05/12/2008 01:06:06:29 PM	Non Impacting
144.124.108.032	License terminal	05/12/2008 01:06:06:29 PM	Maintenance
Lacben_4	Link down	05/12/2008 01:06:06:29 PM	Maintenance
Klgh9	Card out	05/12/2008 01:06:06:29 PM	Maintenance

1 *Add contextual information*

Service Name	Device Location	Contact Details	SLA Details
E-Com-1 Inc	San Jose down	Call Mike Smith 410-777-0987	10:35
(App)	(Inventory)	(Service Desk)	(CMDB)

2 *From UI, right-click to view data from any source in integrated views*

Configuration Info *Contact Details*
Change History
Problem Resolution History
Enriched Events

3 *Automate steps in workflow/processes*

Right click to execute external actions

Runbook Automation Engine

- Assign Owner
- Email/Page/Message
- Restart App Service
- Restart Server
- Provision
- Open Trouble Ticket

US-based airline:

"We can now tra~~ck root cau~~ ~~~~ d ea~~rly~~; transfer information acros~~ ~~~~ ~~help desk"

➤**Saved** ~~~~ **st three months**

Session 5 Track 3
Optimizing your Operations Infrastructure with Intelligent Automation

IBM Tivoli Netcool Configuration Manager

INTELLIDEN®

ITNCM can help you…

- Automate routine configuration management task
- Understand how network changes may affect service and your customers, and proactively manage the impact of these changes
- Improve adherence to corporate and regulatory standards through ongoing network policy enforcement
- Comprehensive provisioning of networks, servers, storage and applications

Unique technology advantages

- Proven Scalability
- Revolutionary SmartModel™ Technology
- Multiple Automation Modes for different skills and needs
- Comprehensive Compliance Management
- Open APIs

"By leveraging Intelliden, we have added a critical layer of automation to the activation and configuration of our new service offerings. Intelliden gives us a common data plane and complete understanding and control of device configuration. This allows TELUS to roll out new services, improve standardization and ultimately customer satisfaction, as well as reduce operating expenses and errors."

Ibrahim Gedeon, CTO, TELUS

Session 8 Track 1
How Managing Network Change
Can Reduce Opex…

Cloud services   Security

Compliance

Controlled Change

Service Delivery   Network   Audit

Automation

Problem remediation   Service Assurance

End to End Provisioning

PulseANZ 2010

advance your infrastructure

Tivoli Application Dependency Discovery Manager

Universal Discovery Engine

Discover Actual State of configuration items. Includes Topology Views and the ability to discover relationships between items. Federation, Name Reconciliation And Normalization of data

Application Mapping with Dependencies

Customer can understand what they have through agent-less discovery of interdependencies between applications, middleware, servers and network components and automated application maps

Configuration Auditing

Customer can learn how their configuration items are configured and changing over time by capturing the configuration of each CI, tracking changes to it and providing analytics to report on the history of these configuration changes over time
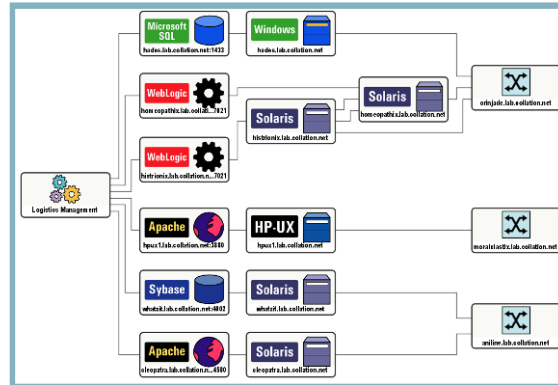
Compliance

Customer can determine if their configuration items are compliant by using the capability to compare discovered configuration of CIs to a "reference configuration" and determine the variations that define violations to local policy

Align business priorities with performance management

Align → **Prioritize**

At a Glance Information about Your Business Needs and any challenges of IT in meeting those needs

Service Management
- Track KPI
- Align IT Operations with Business Priorities
- Identify Service problems before your customers

Business Service Management

- Align IT Operations with Business Priorities

- At a Glance Operations Management with Consolidated Dashboard

- End to End View

Sense → **Isolate**

Provides the end-user perspective across all resources in the service

Transaction Monitoring for
- Topology Tracking
- End Experience Monitoring

Application Response and Tracking:

- Enable Proactive Response to emerging Problems

- Track End User Response

- Maintain detailed transaction information to speed problem isolation

Diagnose → **Repair**

Provides the resource specific details in context of the transaction

Application and Resource Monitoring for
- Systems
- Applications
- Networks

Deep dive Diagnosis and granular Resource Mgmt

- Monitor Essential IT Infrastructure

- Manage Risk

- Track Critical Resources for early warning of potential service hits

- Dynamically detect emerging "abnormal" behavior

Session 6 Track 3 Service Mgmt – Breaking the barriers between IT & Business

PulseANZ 2010

Server & Application Resource Monitoring with ITM

Gain Visibility into Core Resources in your Dynamic Infrastructure

- Maintain Visibility into all critical resources
  - OS, Middleware, Applications
  - Application Servers
  - Virtual Hypervisors
  - System z and z/OS
- Leverage Predictive Infrastructure
  - Dynamic Thresholds
  - Proactive Capacity Monitoring
- Resource Details Enable:
  - Risk Management
  - Problem Diagnosis
  - Capacity Planning

Microsoft IIS **Microsoft .Net** **Microsoft SQL**

Windows Servers

VMware

DHCP/DNS

Sun Server

Load Balancer

Apache **IBM WebSphere** **IBM DB2**

Veritas Cluster **AIX Servers with HACMP** **LPAR**

Microsoft IIS **BEA Weblogic** **Oracle**

HP Servers

Linux on z **z/OS** **CICS, IMS, etc.**

System z
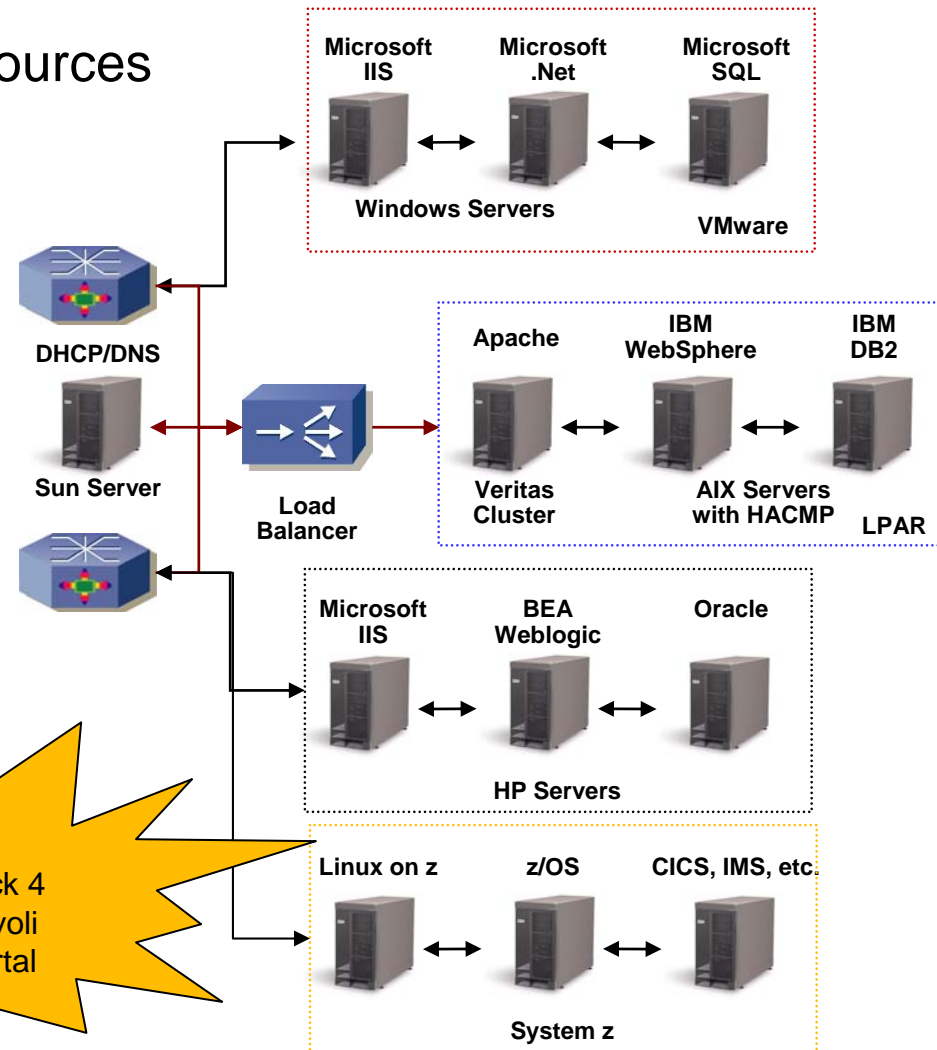
Session 6 Track 4
Leveraging Tivoli
Enterprise Portal

Meet the people who can help
advance your infrastructure

IBM Tivoli Composite Application Management (ITCAM)

- Monitor <u>application response</u> to ensure business expectations are met
- Understand <u>transaction flows</u> over complex topologies
- Monitor infrastructure <u>performance and availability</u>
- <u>Diagnose</u> application performance issues
- Increase application availability and <u>customer satisfaction</u>
- Reduce <u>MTTR</u> and <u>MTBF</u>

IT Staff

IT Cust

Transactions

Applications

Servers
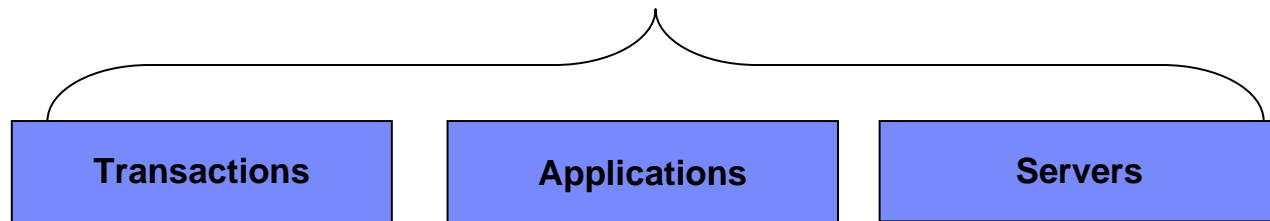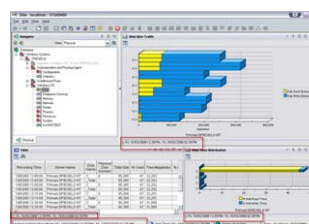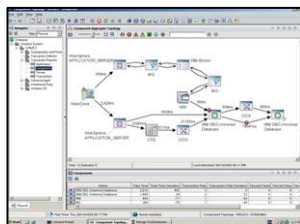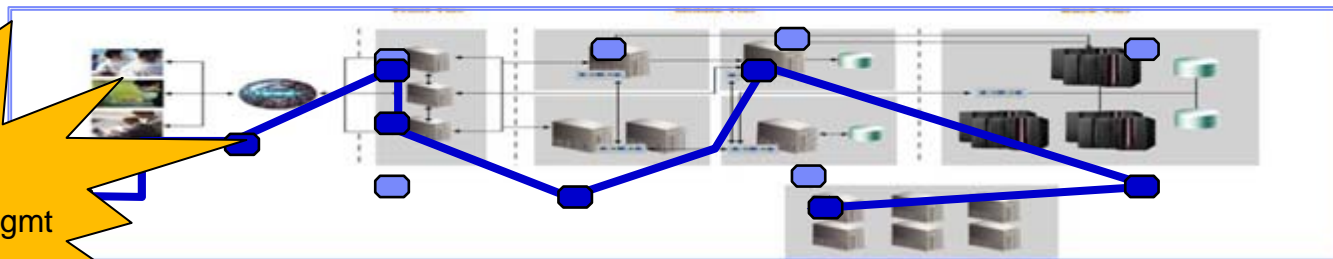
Session 10 Track 3
IT Service Avail & Perf Mgmt
toold by ITCAM…

Meet the people who can help
advance your infrastructure

The Future is Smarter Network & IT Operations

- Service-aware end-to-end performance management spanning network & IT infrastructure

- Single streaming-analytics layer across network, servers and applications:
  - Thresholding
  - Baselining
  - Predictive

- End-to-End KPIs
  - E.g. "IT Health" high level indicators consolidating application, server and network health

TNPM Visualization

Operational Views   Reporting

Operational Data Store

Streaming Analytics

Collection and Mediation

Data Center

ITM Agent(s)

IT, fixed and mobile networks

PulseANZ 2010
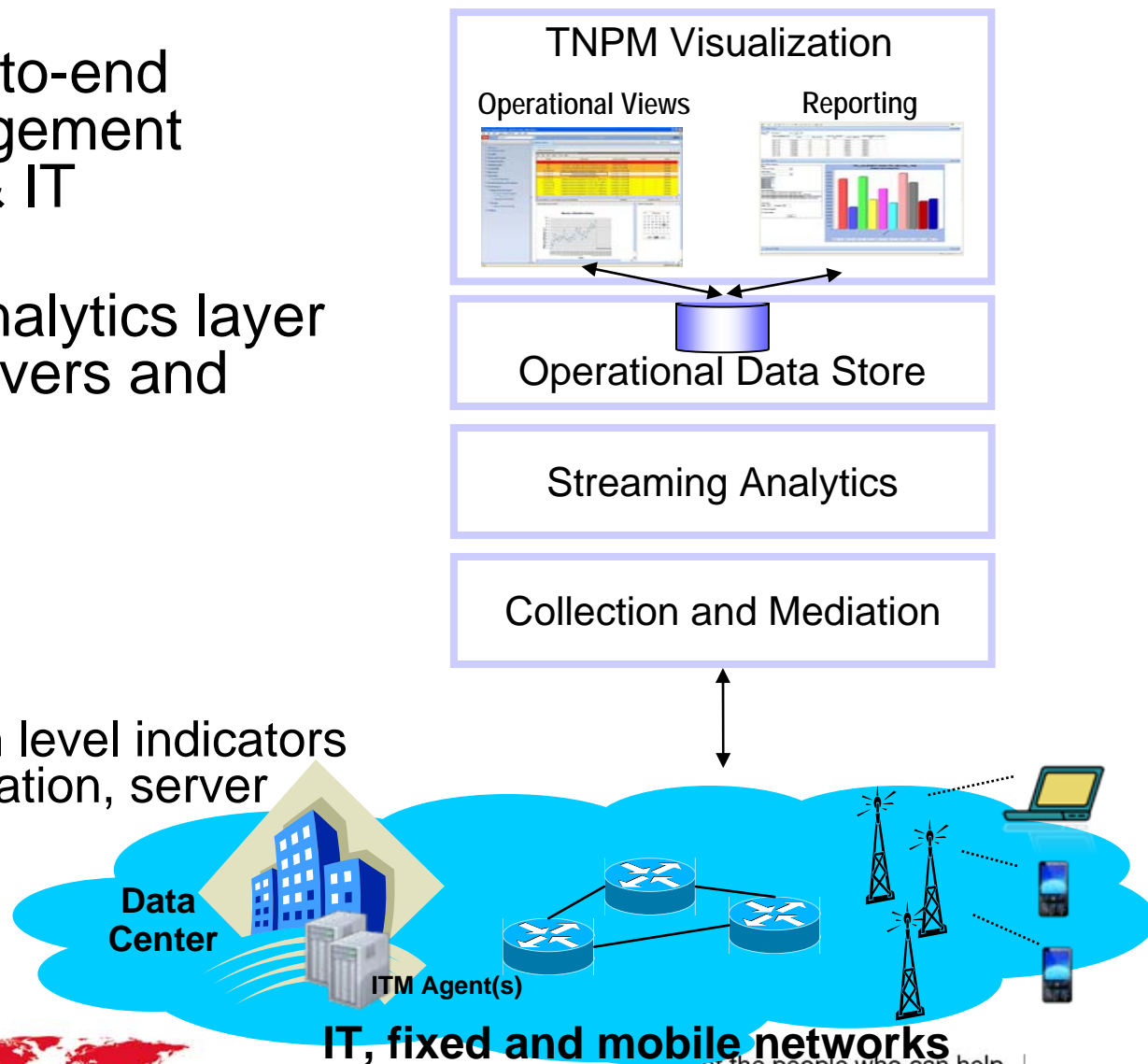
TNPM – Supporting Smarter Network Operations

- **Network Operations Centre**
  - Monitor network performance; Isolate, analyze and resolve service-affecting problems
  - Detect real-time threshold violations
  - Provide immediate insight into current conditions

- **Visualization and Reporting of Network Performance**
  - Interactive console for monitoring and root cause analysis
  - Ad-hoc reporting
  - Management Reporting (Benchmark improving performance)
  - Customer Reporting

- **Network performance optimization**
  - Detect small degradations with high impact
  - Optimize data flow though the network
  - Optimize usage of network infrastructure

- **Trending and capacity planning**
  - Plan infrastructure expansion
  - Forecast capacity exhaustion
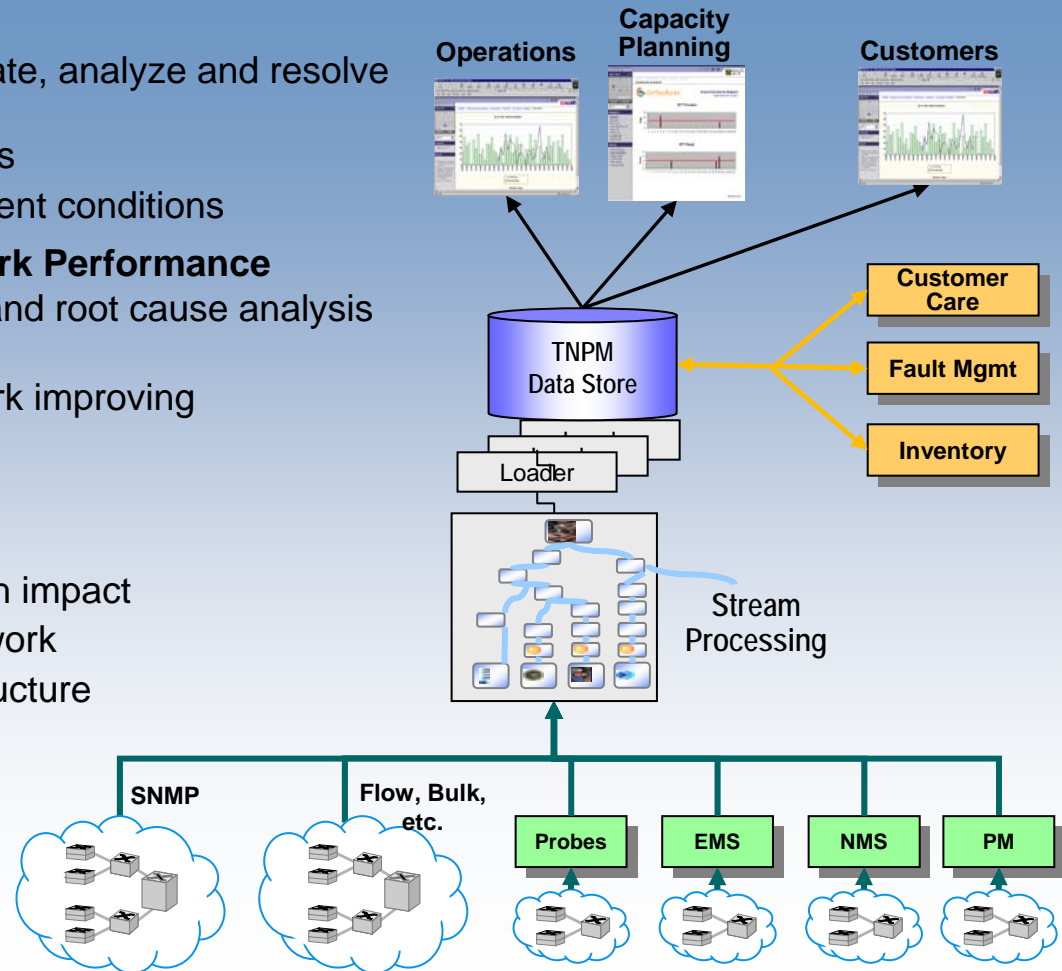
Comprehensive Performance Management across all types of networks

Network Traffic Analysis

- Introducing the Tivoli Netcool Performance Flow Analyzer
  - From world-renowned IBM Zurich research labs
  - Used for years by IBM and by dozens of customers
- Overview
  - TNPFA is a flow-based network profiling system designed to gain tight control over end-to-end resource usage for hosts, servers, services, applications, protocols, domains, autonomous systems, quality of service classes, interfaces and user-defined combinations of these aspects
  - Operates passively by generating detailed network traffic reports from Cisco's NetFlow, IPFIX, Juniper's J-Flow & Cflowd and Huawei's NetStream, sFlow*
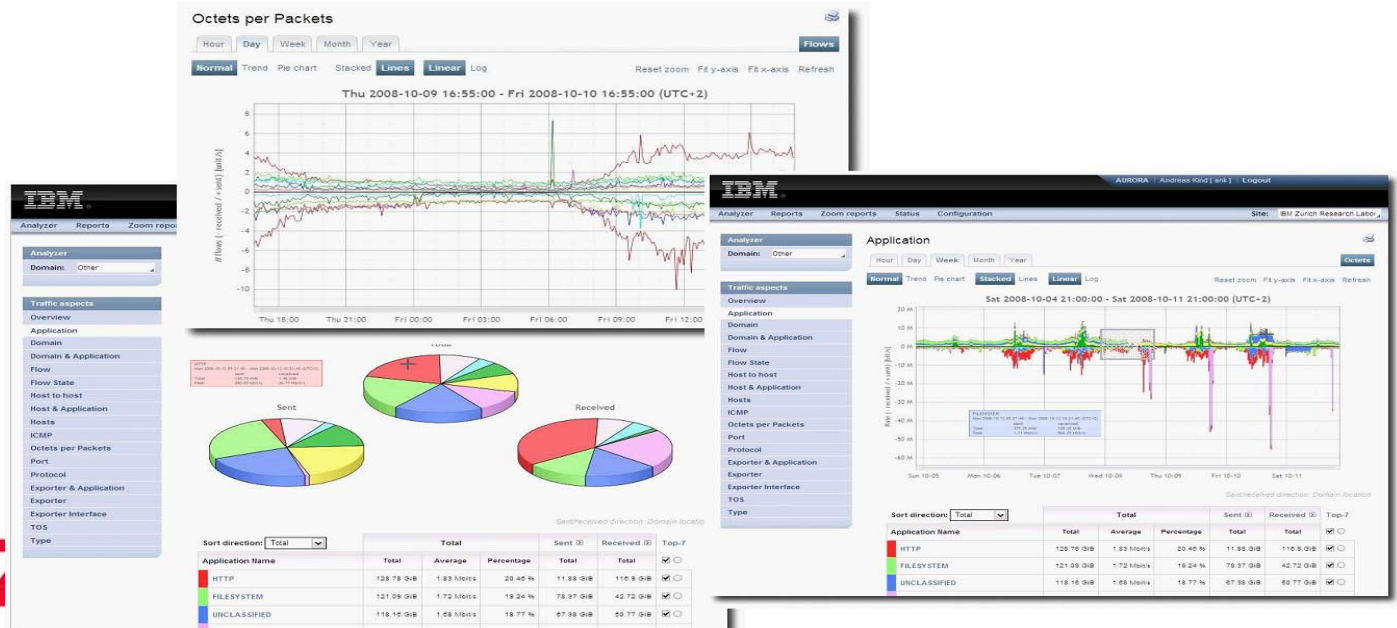
Predictive Analytics built *into* the Solution, not *onto*

Tivoli Solution

- ✓ *Predictive Analytics across all layers:* Built-in PAM span all levels of technology stack

- ✓ *Broad collection/integration:* Largest available experience library of collectors, integrations, and run-books

- ✓ *Robust domain experience:* We're investing more intelligence up-front

- ✓ *Efficient & scalable:* We collect the right data, not just lots of data

- ✓ *Robust visibility:* Get the metrics that matter most, more frequentlys

- ✓ *Maximum intelligence:* Nimble approach to collecting & storing data for maximum intelligence & context
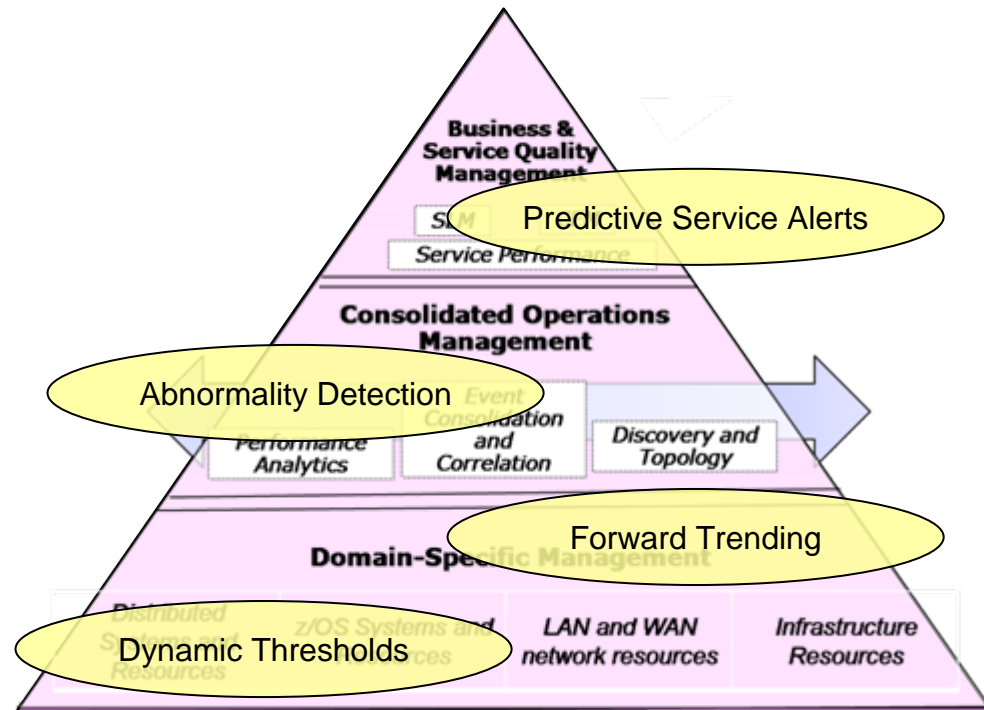
Add Predictive Capabilities into the data you are already collecting, distributed across the solution to provide maximum value with minimum extra effort

Key Benefits of Tivoli Consolidated Operations

- **Increase Reliability.** By reducing the mean time to resolution of faults with event enrichment, correlation and root cause analysis

- **Improve Efficiency.** Simplify and automate the management of complex IT & Services infrastructures

- **Optimize existing assets.** Better utilization of IT & OSS resources through network, server and application discovery, reporting and reconciliation

- **Leverage Comprehensive Network, Server, Application Visibility…**

syn·er·gy (sĭn'ər-jē) n. *pl.* **syn·er·gies** The interaction of two or more agents or forces so that their combined effect is greater than the sum of their individual effects.

Thank You!

PulseANZ2010

Meet the people who can help advance your infrastructure

17

Trademarks and disclaimers

PulseANZ2010

Meet the people who can help advance your infrastructure